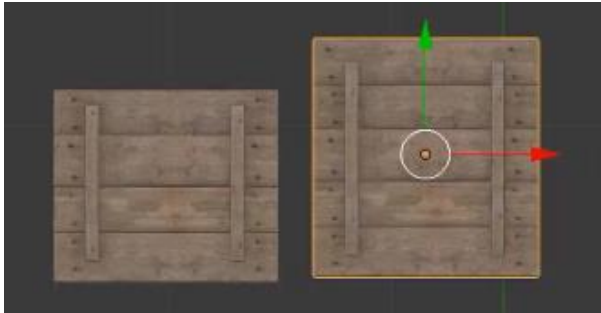


Chapter 4, lesson 53, Adding doors/hatches

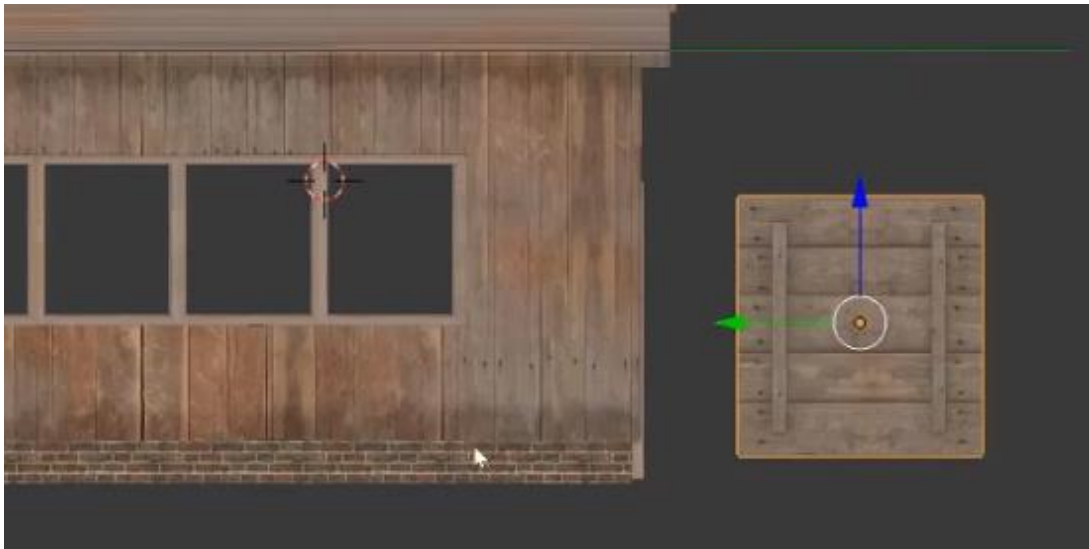
In this lesson we will focus on placing the hatches on the sides of the building and altering them to make them more realistic and improve our chances of a successful render in the end.

Chapter 4, lesson 53, Adding doors/hatches

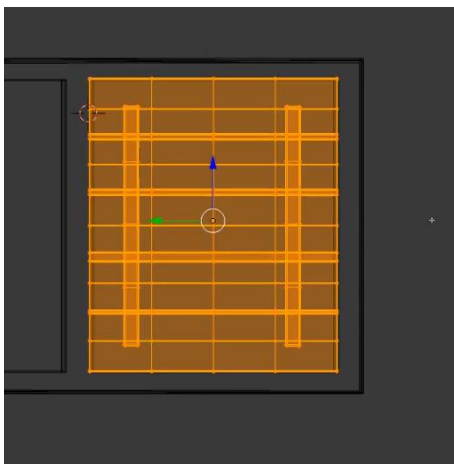
In this chapter we will continue by placing hatches on the left and right side of the building. In our second layer we have our asset library. From there we will use the larger hatch this time. It should fit perfectly on the sides of the building.



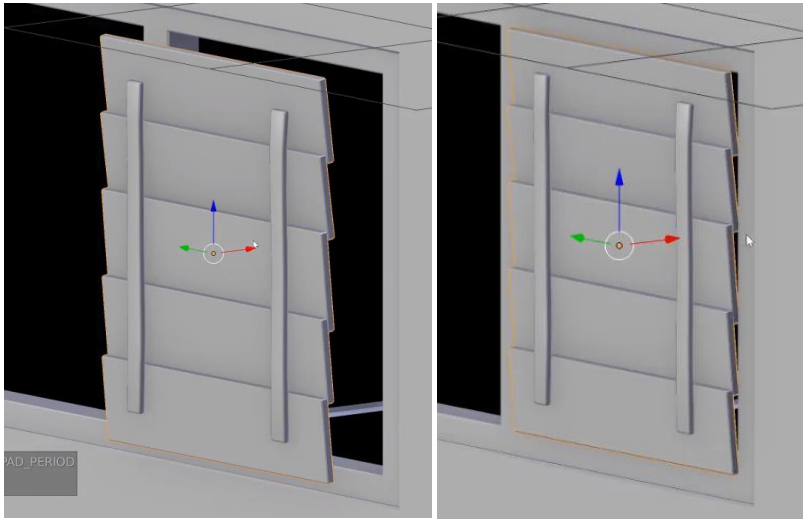
Select the large hatch and duplicate it with **"shift+D"** and move it to the first layer by using the **"M"** shortcut. Then use the snapping tool followed by **"R"** to rotate it 90 degrees to the left in top view. Follow up by rotating 90 degrees from the front view so that it aligns with the left side of the building. Use **"ctrl+numberpad 3"** to go into left view.



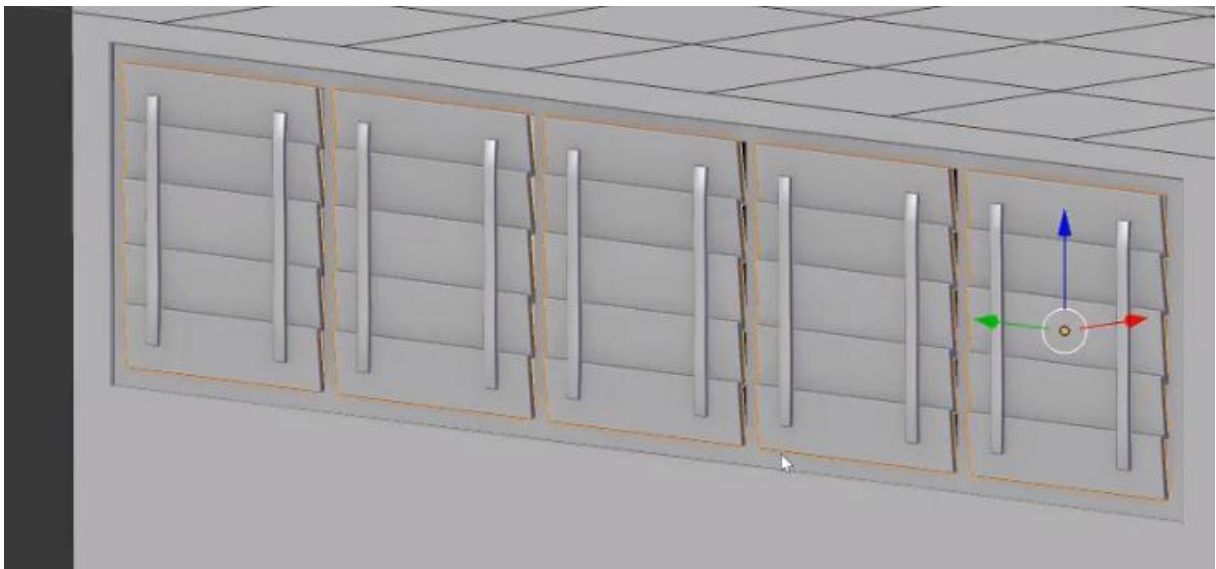
Scale the hatch in edit mode so that the scale is maintained at 1 for all axis. Make it fit into the first slot of the building. To make it fit well you will have to scale it slightly more in the Z axis. Use **"S"** followed by **"Z"** to constrain the scaling.



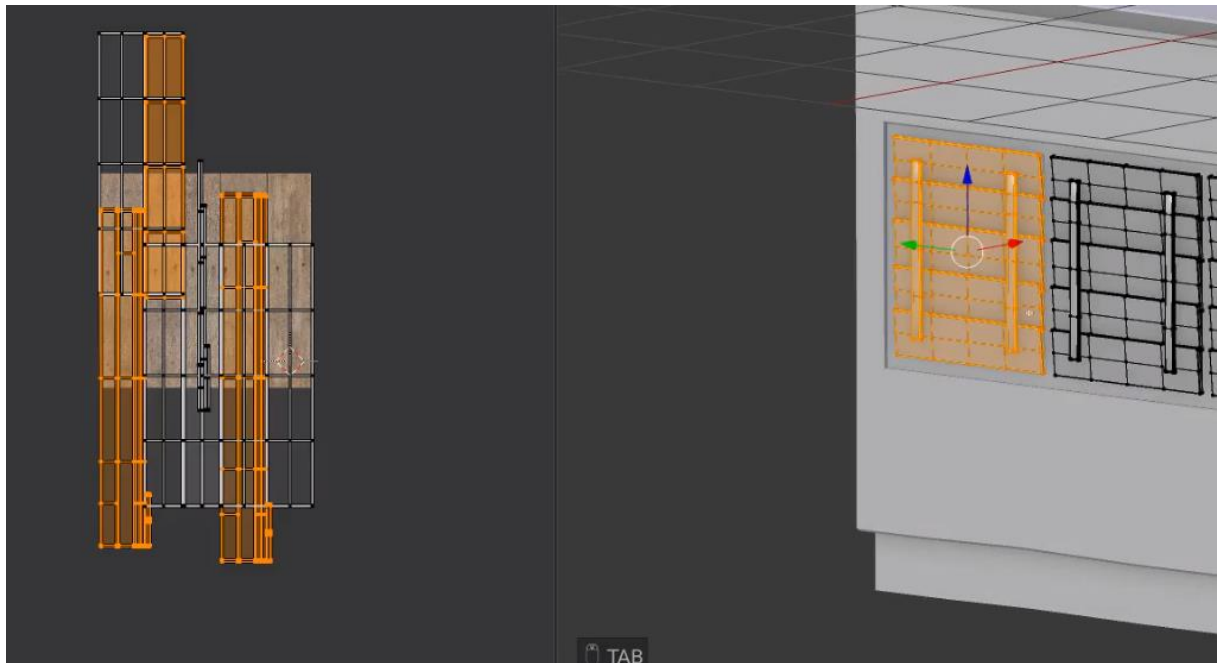
Follow this up by moving the hatch in the X direction so that it is inside the hole made for it.



In this case we leave a small space, but this is okay since we don't intend to 3D print this. It is highly unlikely that this would be seen in a final render. At this point it is a matter of duplicating the hatch over to the other frames on this side of the building. Duplicate with "**shift+D**" in edit mode so that we keep all the hatches within the same object. This way we don't have to deal with as many objects in our outliner and we can alter the UV-maps and changing the position of some vertices without having to toggle between object mode and edit mode.

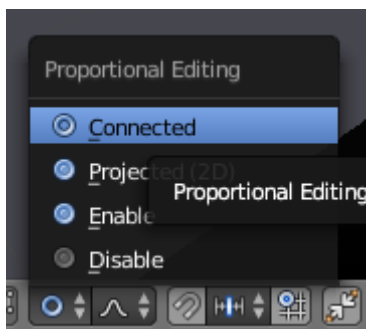


We will continue by adding variation to these hatches. In edit mode we will select one hatch at a time. Select one vertex from the first hatch and expand the selection to all linked vertices with "**ctrl+L**". Use the "**g**" key in the UV/image editor to move the selected vertices to a new location on the texture. Continue doing this for all the hatches until you are happy with the variation.



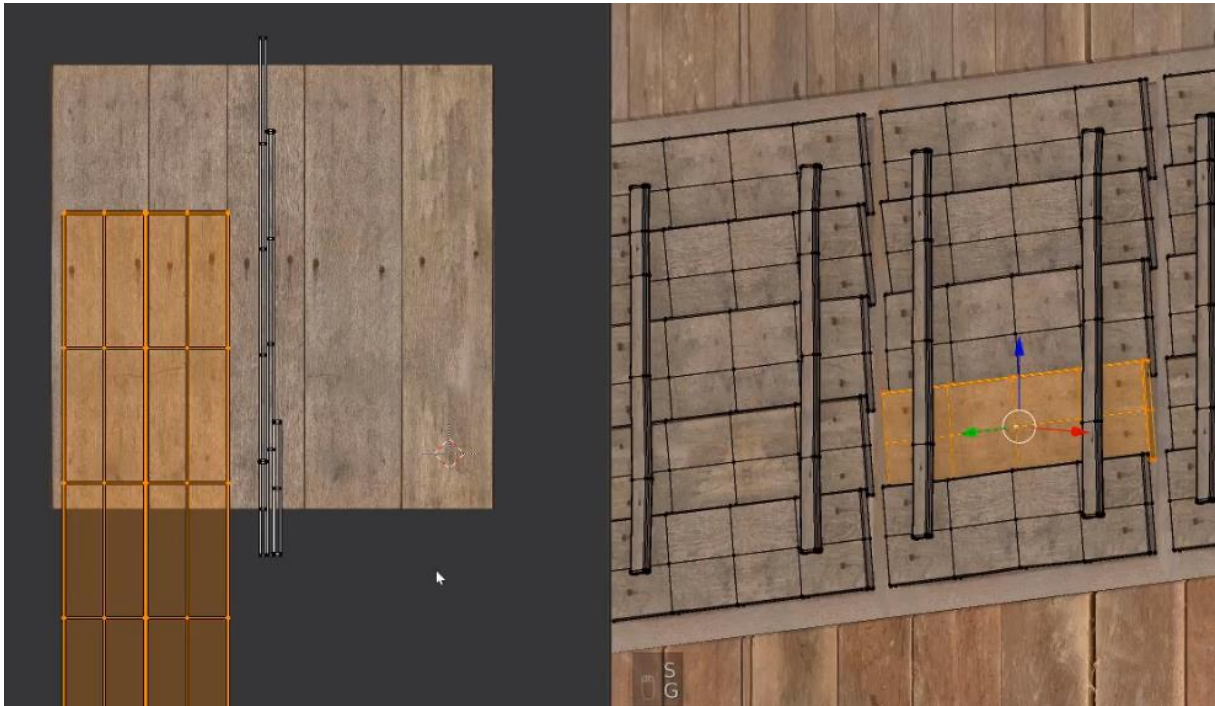
Next, we will use proportional editing to create some variation between the hatches. When using proportional editing we have two options available, we can either use the standard proportional editing or we can set it to connected. if we set the proportional editing to Connected only vertices that are connected will be altered.

Another way to say it would be that the same vertices that would be selected if using “**Ctrl+L**” would be the only affected vertices. To turn on connected proportional editing you must use the menu in the bar below the 3D view, note that this option is only available in edit mode. The benefit of the connected feature is that we can modify one hatch at a time even if they are the same object in blender.



The effect that we are adding by altering the hatches one by one in this way is a more realistic render in the end. This extra work may seem like unnecessary work right now, but it is very important if your goal is realism. if a model is too perfect it won't look realistic and this is a very common mistake for beginners. The time you put into a model has a relation to the quality of the final product.

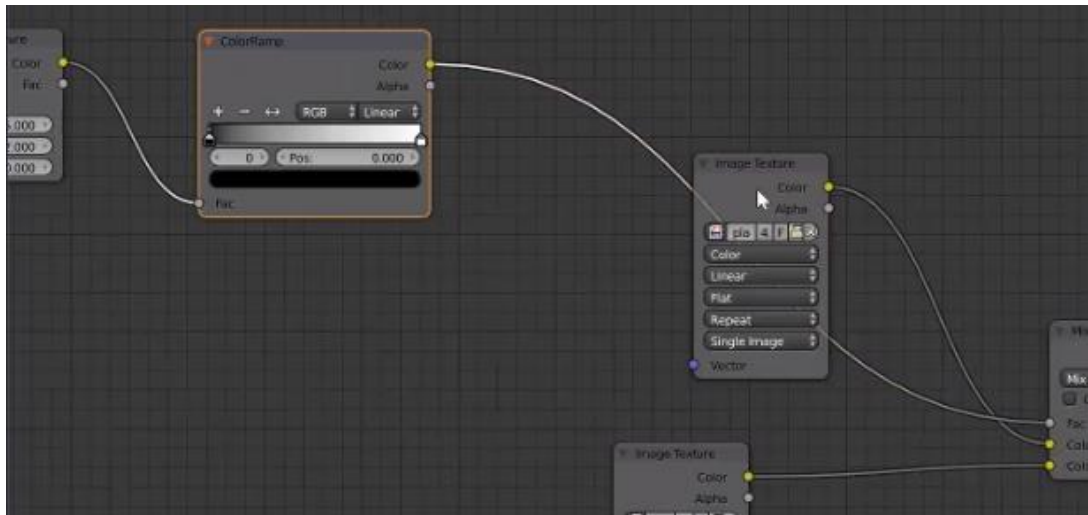
Keep using these two ways, moving vertices very slightly and changing the position on the UV map in relation to the texture until you have gone over all the hatches. It will become second nature to you after a while.



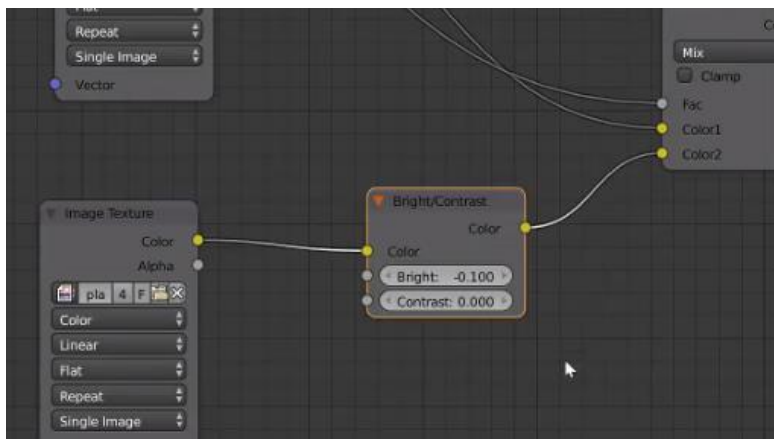
Now we will continue our quest for realism by mixing in another texture in the material for our hatches. Go to the materials tab in the properties panel and make a duplicate of the planks 5 material by clicking on the numbered icon next to the “F”. Rename it to “Planks_5_Hatch”.



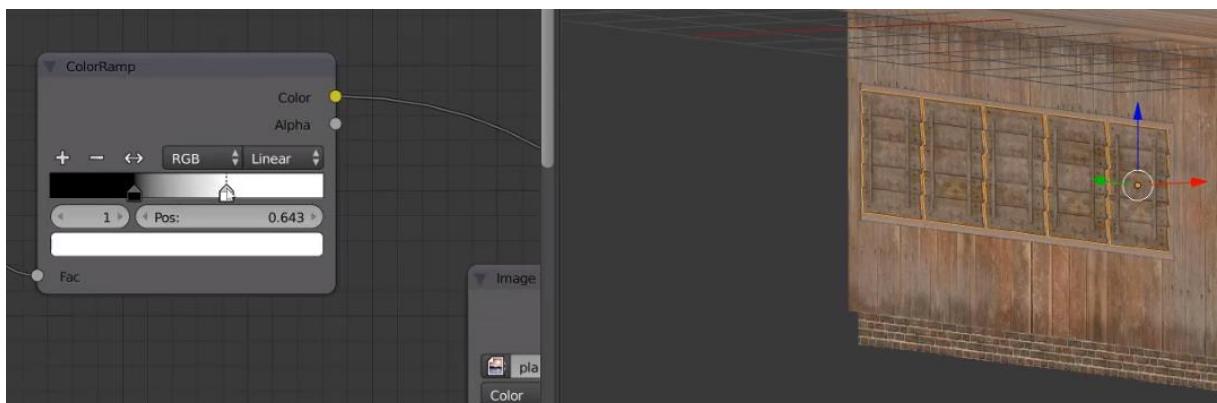
Open the node editor and duplicate the image texture node with “**shift+D**”. now make sure that the node Wrangler is enabled in the system preferences. Hold “**alt**” and drag with the mouse between the two image textures to create a mix node. Connect the mix node into the base color of the principled Shader. Now we will add a color ramp and a noise texture. Connect the color output of the noise texture into the factor input of the color ramp and the color output of the color ramp into the factor of the mix node.



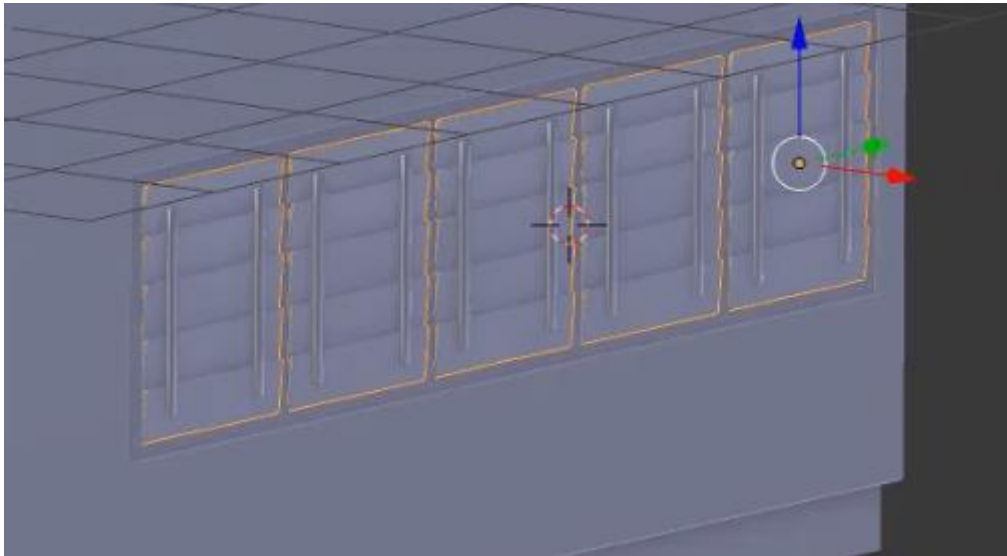
Now add the brightness and contrast node between the lower image texture and the mix node. Set the brightness value of this node to -0.1.



At this point will adjust the color ramp by bringing the two flags closer to each other and in this way increase the contrast. You can also change the scale of the noise texture to a lower value like 3.0 to make the areas of each texture larger but less detailed.



When you are happy with the material you can go to top orthographic view using “number pad 5” follow this up by using “**shift+D**” to duplicate the hatches. enable the Snipping tool and rotate the hatches 180 degrees and put them into place on the other side of the building.



Lastly, we will just duplicate over the side door to the rear side of the building. Do the same for this door as we did for the hatches. Go to top view and rotate it 180 degrees and place it in the hole we left for the door on the rear side. Duplicate it again for the second door on the rear side. This is the end of this lecture.

